

**REMARKS**

Receipt of the Office Action mailed February 13, 2001 is acknowledged. Claim 17 has been canceled without prejudice or disclaimer. New claims 18-25 have been added, for which support can be found in original claims 3, 5, 6, 7, 9-12, 14 and 17. Claims 1, 3, 5, 6, 7, 9, 10-12 and 14 have been amended. No new matter has been entered. Applicant respectfully requests reconsideration of the present application in view of the foregoing amendments and in view of the reasons which follow.

**I. Rejection of claims 1 - 17 under 35 U.S.C. §112, second paragraph, as being indefinite**

In the PTO's view "*[I]t is unclear, how any material cannot be plastifiable when structurally degraded mechanically, thermally, chemically or otherwise.*" Applicants are not entirely clear what this objection pertains to. It is common knowledge that not each and every material can be made plastifiable. For example, when natural starch is heated, it decomposes but never becomes plastifiable. As a consequence, natural starch cannot be extruded. Only under special conditions - which require the presence of plastifying agents such as glycerin - can the starch can be made thermoplastic.

Furthermore, polymers are commonly classified into duroplastics and thermoplastics. Only the thermoplastics become soft upon heating and can be extruded. Duroplastics are not extrudable. Thus, applicants submit claim 1 is sufficiently clear and withdrawal of the rejection is respectfully requested.

**II. Rejection of claims 3, 5, 7, 9 - 12 and 14 under 35 U.S.C. §112, second paragraph, as being indefinite**

All of the rejected claims contain both broad and narrow ranges. Applicants have deleted the narrow ranges and drafted additional dependent claims therefor. It is clear that the amendments to the claims do not narrow the claims. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

**III. Rejection of claims 6 and 17 under 35 U.S.C. §112, second paragraph as being indefinite**

Applicants have canceled in claim 6 the phrase "preference being given to sunflower seed oil." Claim 17 has been drafted as new claim 25 as a food product encased in the shaped body. Like above, it is clear that the amendments to the claims

do not narrow the claims. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

**IV. Rejection of claims 1 - 9 and 13 under 35 U.S.C. §102 as being anticipated by Lim et al. (WO 93/19125)**

Applicants have incorporated features of present claim 10 into claim 1. Examples 1 and 4 of the present application show films comprising fibers. The fibers make the film more edible by reducing the wet-tensile strength. Lim et al. do not teach or suggest any fibers. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

**V. Rejection of claims 1 - 17 as being unpatentable over Higgins (US 4,154,857) in view of Lim et al.**

Higgins discloses a method for the production of collagen food casings. In this method, a tubular collagen casing is treated with an aqueous solution of a water-soluble anionic polysaccharide before it enters the hot air drier. The anionic polysaccharide is a naturally occurring or is formed by deesterification of a polysaccharide ester (col. 1, lines 64 - 68). The anionic polysaccharide acts as a dewatering agent and may be applied together with the secondary plasticizer, i.e. the glycerol (see the examples disclosed by Higgins). The impregnation with the dewatering agent makes the drying process faster (see col. 2, lines 1 - 11). The collagen casing used in this process may comprise 2 to 10% by weight of noncollagenous fibers, such as wood, cotton, rayon, other cellulosic fibers, noncellulosic fibers, such as polyester, polyamide and the like (col. 3, lines 48 - 53). The entire gist of Higgins is to provide an improved method for drying collagen casings. There is no suggestion in Higgins that other components could be used instead of collagen, because the entire object of Higgins is improved drying of collagen structures from collagen compositions.

Lim et al., teach a thermoplastic composition comprising a starch and a protein, which are crosslinked with each other by an aldehyde or epoxide crosslinking agent. The protein may be chosen among a variety of substances, collagen being one of them (page 6, first full paragraph). The invention of Lim et al. is thus directed towards articles made from a novel composition. Depending on the starting materials, the articles may be consumed by a human or other mammal (page 9, lines 8 - 11).

As set forth on page 5 of the Office Action, the Examiner concludes that *"it would have been obvious to one of ordinary skill in the art to have substituted the edible*

*matrix taught by Lim et al. for the collagen matrix in the invention of Higgins et al. to obtain a more palatable sausage casing."* Applicants respectfully submit that this analysis fails to consider the references as a whole, particularly Higgins, as required under Section 103(a).

As discussed above, Higgins is directed to an improved method of producing collagen products, namely an improved dewatering process. Higgins explicitly requires collagen. One skilled in the art seeking to modify the casings of Higgins would have had no motivation to remove the collagen as proposed by the Examiner, because to do so would render Higgins unsatisfactory for its intended purpose. That is, removing the collagen from the casings of Higgins would render Higgins' improved process of producing collagen products moot. See MPEP 2143.02 ("THE PROPOSED MODIFICATION CANNOT RENDER THE PRIOR ART UNSATISFACTORY FOR ITS INTENDED PURPOSE"). Thus, one skilled in the art, considering the prior art as a whole, would not have been motivated to combine the teachings of Higgins and Lim et al.

Moreover, the dewatering agents as taught by Higgins could likely not perform their intended function, if the collagen matrix of the casing was replaced by a starch and protein based matrix. Furthermore, when considering the prior art as a whole, applicants point out that the objects defined in the two references are not the same and are not even comparable. Thus, in view of the foregoing, the present invention is not rendered *prima facie* obvious by said combination of references.

Since the combination of Higgins and Lim et al. fail to teach or suggest the claimed invention, reconsideration and withdrawal of the rejection are respectfully requested.

**VI. Rejection of claims 14 - 16 under 35 U.S.C. §103(a) as being unpatentable over Higgins in view of Lim et al. And Metzger (US 5,681,517)**

Metzger does not cure the deficiencies of Higgins or Lim et al. All Metzger teaches is a method for producing a casein film which may be a planar sheet or a tube (col. 2, lines 22 - 46). The film or film tube may be used as edible sausage casing (col. 4, lines 23/24) and has a thickness of 0.1 to 0.3 mm. But, for the reasons advanced above, a person of ordinary skill in the art would not have combined the teaching of Lim et al. with that of Higgins. Accordingly, the combination with the additional secondary

reference also cannot render the subject matter of present claims 14 - 16 *prima facie* obvious.

Since the combination of Higgins, Lim et al. and Metzger fail to teach or suggest the claimed invention, reconsideration and withdrawal of the rejection are respectfully requested.

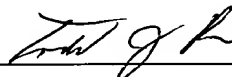
Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

Respectfully submitted,

Date July 13, 2001

By



FOLEY & LARDNER  
Washington Harbour  
3000 K Street, N.W., Suite 500  
Washington, D.C. 20007-5109  
Telephone: (202) 672-5414  
Facsimile: (202) 672-5399

Richard L. Schwaab  
Attorney for Applicant  
Registration No. 25,479  
Todd Burns  
Registration No. 38,011

Should additional fees be necessary in connection with the filing of this paper, the Commissioner is hereby authorized to charge Deposit Account No. 19-0741 for any such fees.

**VERSION SHOWING MARKED UP CHANGES TO  
PRELIMINARY AMENDMENT FILED JULY 13, 2001**

1. (Amended) An edible shaped body in the form of a flat or tubular fiber containing film based on plastifiable biopolymers or cleavage products or derivatives thereof and/or synthetic polymers of natural monomers is produced by a process having the following stages:

a) mixing the biopolymers, cleavage products or derivatives thereof and/or the synthetic polymers with at least one edible plasticizer, at least one lubricant and at least one crosslinker and fibers,

b) melting the resultant mixture to give a thermoplastic mass,

c) extruding this mass and

d) calendering and/or stretching or blowing the product obtained from the extrusion to give the edible shaped body.

3. (Twice Amended) The shaped body as claimed in claim 1, wherein the content of plastifiable biopolymer, cleavage products and derivatives thereof and synthetic polymers of natural monomers is from 10 to 90% by weight, [preferably from 15 to 80% by weight, in each case] based on the total weight of the shaped body.

5. (Twice Amended) The shaped body as claimed in claim 1, wherein the content of plasticizer(s) is from 0.5 to 50% by weight, [preferably from 2 to 25% by weight, in each case] based on the total weight of the shaped body.

6. (Twice Amended) The shaped body as claimed in claim 1, wherein the lubricant is a vegetable oil, [preference being given to sunflower seed oil,] rapeseed oil, olive oil and poppyseed oil, or a lecithin, triethyl acetylcitrate, a sucrose ester, a lactone, a lactam or a synthetic triglyceride.

7. (Twice Amended) The shaped body as claimed in claim 1, wherein the content of lubricant(s) is from 2 to 30% by weight, [preferably from 5 to 20% by weight, in each case] based on the total weight of the shaped body.

9. (Twice Amended) The shaped body as claimed in claim 1, wherein the content of crosslinker(s) is from 0.2 to 30% by weight, [preferably from 0.5 to 25% by weight, in each case] based on the total weight of the shaped body.

10. (Twice Amended) The shaped body as claimed in claim 1, wherein [it] the fibers comprise[s fibers, preferably] woodpulp fibers or cotton linters.

11. (Amended) The shaped body as claimed in claim 10, wherein the woodpulp fibers have a length of from 0.2 to 5 mm[, preferably from 0.5 to 2 mm].

12. (Twice Amended) The shaped body as claimed in claim 1[claim 10], wherein the content of fibers is from 2 to 30% by weight, [preferably from 5 to 20% by weight, in each case] based on the total weight of the shaped body.

14. (Twice Amended) The shaped body as claimed in claim 1, wherein its thickness or wall thickness is from 20 to 120  $\mu\text{m}$ [, preferably from 30 to 60  $\mu\text{m}$ ].